

CLAIMS

1. A correction data acquisition method for an image display device wherein an image is displayed with a plurality of primary colors, comprising the steps of:

5 displaying an offset image with a black signal level at an image display section in said image display device;;

capturing said offset image by successively switching filters having bands corresponding to said plurality of primary colors, respectively, so as to acquire a multiband offset captured data;

10 sequentially displaying primary color images at said image display section, said primary color images having predetermined signal levels for the corresponding primary colors;

sequentially capturing said primary color images while switching said filters for the corresponding primary colors, so as to acquire

15 multiband primary color captured data;

displaying primary color scale images at said image display section, said primary color scale images having an input signal level that is gradually changed for each of the corresponding primary colors;

20 sequentially capturing said primary color scale images so as to acquire a primary color scale captured data; and

calculating an offset correction data based on said multiband offset captured data, said multiband primary color captured data, and said primary color scale captured data.

2. A correction data acquisition method for an image display device wherein an image is displayed with a plurality of primary colors, comprising the steps of:

displaying an offset image with a black level at an image display section in said image display device;

30 capturing said offset image simultaneously through filters for the corresponding primary colors, so as to acquire a multiband offset captured data;

sequentially displaying primary color images at said image display section, said primary color images having signal levels of the

corresponding primary colors;

capturing said primary color images simultaneously through said filters for the corresponding primary colors, so as to acquire a multiband primary color captured data;

5 sequentially displaying gray scale images in said image display section, said gray scale images having gray scale signal levels;

simultaneously capturing said gray scale images through said filters for the corresponding primary colors, so as to acquire primary color scale captured data; and

10 calculating an offset correction data based on said multiband offset captured data, said multiband primary color captured data, and said primary color scale captured data.

3. The correction data acquisition method according to claim 1 or 2, wherein, upon capturing for acquisition of said multiband offset
15 captured data, said multiband primary color captured data and said primary color scale captured data, capturing of lights within a wavelength range above 650-780nm is cut off.

4. The correction data acquisition method according to any one of claims 1-3, wherein, upon capturing for acquisition of said
20 multiband offset captured data, said multiband primary color captured data and said primary color scale captured data, capturing of lights within a wavelength range below 400nm is cut off.

5. The correction data acquisition method according to any one of claims 1-4, wherein the number of said primary colors is not less
25 than three.

6. The correction data acquisition method according to any one of claims 1-5, wherein said image display section includes a plurality of projectors for projecting and displaying one image.

7. The correction data acquisition method according to any one
30 of claims 1-6, wherein said filters are designed so as to allow transmission of a luminescence band ranges of a corresponding primary color and transmission of at least part of luminescence band ranges of the other primary colors.

8. The correction data acquisition method according to claim 1, wherein a tunable filter is used as said filters, said tunable filter being electrically controllable so as to allow transmission of a luminescence band range of a corresponding primary color and transmission of at least part of luminescence band ranges of the other primary colors.

9. A calibration system for an image display device including an image display section for displaying an image with a plurality of primary colors, comprising:

a calibration pattern generating section for selectively displaying, at said image display section, calibration patterns of an offset image at a black level, of primary color images at predetermined signal levels of the corresponding primary colors, and of the corresponding primary colors acquired by sequentially changing input signal levels of the corresponding primary colors;

an image capturing section which includes filters having bands for the corresponding primary colors and a through-hole, said filters being designed for allowing transmission of a luminescence band ranges of a corresponding primary color and transmission of at least part of luminescence band ranges of the other primary colors, said image capturing section being for capturing said calibration patterns displayed at said image display section, while selecting said filters or said through-hole; and

an image correction data calculating section for calculating offset correction data based on multiband offset captured data acquired by sequentially capturing said offset image with said image capturing section while switching said filters for the corresponding primary colors, multiband primary color captured data acquired by sequentially capturing said primary color images with said image capturing section while switching said filters for the corresponding primary colors, and primary color scale captured data acquired by sequentially capturing said primary color scale images with said image capturing section through said through-hole.

10. A calibration system for an image display device including an image display section for displaying an image with a plurality of primary colors, comprising:

5 a calibration pattern generating section for selectively displaying, at said image display section, calibration patterns of an offset image at a black level, of primary color images at predetermined signal levels of the corresponding primary colors, and of gray scale images acquired by sequentially changing input signal levels of the corresponding primary colors;

10 an image capturing section which includes filters having bands for the corresponding primary colors and a through-hole, said filters being designed for allowing transmission of a luminescence band ranges of a corresponding primary color and transmission of at least part of luminescence band ranges of the other primary colors, said
15 image capturing section being for simultaneously capturing said calibration patterns displayed at said image display section, through said filters; and

an image correction data calculating section for calculating an offset correction data based on multiband offset captured data acquired
20 by capturing said offset image with said image capturing section, multiband primary color captured data acquired by capturing said primary color images, and primary color scale captured data acquired by capturing said primary color scale images.